

IN THE CLAIMS:

1. (Previously Presented) A recursive motion vector estimation method, comprising the steps of:

a) for a current block of a picture divided into a plurality of blocks, and based on motion information generated for the previously-processed block if any and if immediately to the left of said current block, the blocks being processed by said method in a predetermined order, generating (E) a plurality of candidate vectors from stored vectors (PV);

b) selecting (E) one of these candidate vectors to generate a selected vector (d^1);

c) generating (REF) a plurality of test vectors from the selected vector (d^1);

d) selecting (REF) one of the test vectors to generate an output vector (d^2); [and]

e) storing (MEM) the output vector (d^2); and

f) re-executing steps a) through f) for a next-to-be-processed block, if any, as said current block.

2. (Currently Amended) A recursive motion vector estimation method, comprising the steps of:

generating (E) for a block, a plurality of candidate vectors from stored vectors (PV);

selecting (E) one of these candidate vectors to generate a selected vector (d^1);

generating (REF) a plurality of test vectors from the selected vector (d^1);

selecting (REF) one of the test vectors to generate an output vector (d^2); and

storing (MEM) the output vector (d^2) as one of said stored vectors for possible use in said generating for a next block, ~~wherein said step of generating a plurality of test vectors from the selected vector (d^1) includes the step of adding -1, 0, or +1 to each component of the selected vector (d^1).~~

3. (Previously Presented) A device for recursive motion vector estimation, the device comprising:

a) for a current block of a picture divided into a plurality of blocks, and based on motion information generated for the previously-processed block if any and if immediately to the left of said current block, the blocks being processed by said method in a predetermined order, means (E) for generating a plurality of candidate vectors from stored vectors;

b) means (E) for selecting one of these candidate vectors to generate a selected vector (d^1);

c) means (REF) for generating a plurality of test vectors from the selected vector (d^1);

d) means (REF) for selecting one of the test vectors to generate an output vector (d^2);

e) means (MEM) for storing the output vector (d^2); and

f) re-executing steps a) through f) for a next-to-be-processed block, if any, as said current block.

4. (New) The method of claim 2, wherein said generating a plurality of test vectors from the selected vector (d^1) includes adding -1, 0, or +1 to each component of the selected vector (d^1).

5. (New) The method of claim 2, wherein each of said block and said next block is one of the plural blocks of a picture divided into a plurality of blocks.

6. (New) The method of claim 2, a vector of said plurality of candidate vectors generated in the recursive method is generated based on a difference between said output vector and said selected vector.

7. (New) The method of claim 6, wherein the generating of said vector of said plurality comprises adding said difference to another vector of said plurality of candidate vectors.

8. (New) A device for recursive motion vector estimation, the device comprising:
means for generating (E), for a block, a plurality of candidate vectors from stored vectors (PV);

means for selecting (E) one of these candidate vectors to generate a selected vector (d^1);

means for generating (REF) a plurality of test vectors from the selected vector (d^1);

means for selecting (REF) one of the test vectors to generate an output vector (d^2);
and

means for storing (MEM) the output vector (d^2) as one of said stored vectors for possible use in said generating for a next block.

9. (New) The device of claim 8, wherein said generating a plurality of test vectors from the selected vector (d^1) includes adding -1, 0, or +1 to each component of the selected vector (d^1).

10. (New) The device of claim 8, wherein each of said block and said next block is one of the plural blocks of a picture divided into a plurality of blocks.

11. (New) The device of claim 8, wherein a vector of said plurality of candidate vectors generated in the recursive estimation is generated based on a difference between said output vector and said selected vector.

12. (New) The device of claim 8, wherein the generating of said vector of said plurality comprises adding said difference to another vector of said plurality of candidate vectors.